

REMARKS

In response to the Office action dated November 05, 2008, Applicants respectfully request reconsideration based on the above claim amendments and the following remarks. Applicants respectfully submit that the claims as presented are in condition for allowance.

Claims 1-36 are pending in the present Application. Claims 14-28 have been previously withdrawn. Claims 1, 4, 29 and 31 have been amended and claims 3 and 30 have been canceled, leaving claims 1, 4-13, 29 and 31-38 for consideration upon entry of the present amendments and following remarks.

Support for the amendments to the claims can at least be found in the specification, the figures, and the claims (i.e., claims 3 and 30), and more particularly in FIGS. 1-3, as originally filed. More specifically, support for the amendments to claims 1 and 29 may be found at least in canceled claims 3 and 30, respectively. Claims 4 and 31 have been amended to cure claim dependency based on canceled claims 3 and 30, respectively.

No new matter has been introduced by these amendments. Reconsideration and allowance of the claims are respectfully requested in view of the above amendments and the following remarks.

Claim Objections

Claims 1 and 29 stand objected to because it is suggested that the limitation “the first connector being disposed between the two first through-holes” should be “the first connector being disposed between the at least two first through holes”. Appropriate correction as suggested by the Examiner is reflected in amended claims 1 and 29.

Claim 38 stands objected to because it is suggested that the limitation “the first connector” should be “the connector”. Appropriate correction as suggested by the Examiner is reflected in amended claim 38.

Accordingly, it is respectfully requested that the objection to claims 1, 29 and 38 be withdrawn.

Claim Rejections Under 35 U.S.C. § 103

For an obviousness rejection to be proper, the Examiner must meet the burden of establishing that all elements of the invention are disclosed in the prior art and that the prior art relied upon, coupled with knowledge generally available in the art at the time of the invention, must contain some suggestion or incentive that would have motivated the skilled artisan to modify a reference or combined references. *In re Fine*, 5 U.S.P.Q.2d 1596, 1598 (Fed. Cir. 1988); *In Re Wilson*, 165 U.S.P.Q. 494, 496 (C.C.P.A. 1970); *Amgen v. Chugai Pharmaceuticals Co.*, 927 U.S.P.Q.2d, 1016, 1023 (Fed. Cir. 1996).

Claims 1, 3-5, 13, 29-32 and 35-38 stand rejected under 35 U.S.C. § 103(a) as being allegedly unpatentable over Ishida et al. (U.S. Patent No. 7,057,678, hereinafter “Ishida”). The Examiner states that Ishida discloses all of the elements of the abovementioned claims except, *the first connector being disposed between the at least two first through-holes*, which the Examiner further states would have been obvious to one of ordinary skill in the art at the time the invention was made for the desired purpose of disposing the components at a particular preference (e.g., a matter of engineering preference). Applicants respectfully traverse.

However, the present application discloses on pages 1 and 2 of the specification that:

Furthermore, since the CCFLs are arranged inside the LCD devices, the LCD devices should be disassembled into their components to replace old CCFLs that reach the life expectancy with new CCFLs, and then assembled to be used. It is not easy to replace the old CCFLs with the new CCFLs.

Recently, the LCD devices have been developed to have a screen size of more than 30 or 40 inches.

The number of components of the LCD devices having a large screen is much more than that of the LCD devices having a small screen. Accordingly, the LCD devices employing the CCFLs require lots of efforts and increased time for replacement of the CCFLs.

Therefore, a need exists for LCD devices capable of easily replacing consumable components such as lamps and reducing the time taken for replacing old CCFLs with new CCFLs.

The present invention solves the above enumerated problem of easily replacing consumable components such as lamps and reducing the time taken for replacing old CCFLs with new CCFLs, by connecting the inverter 141 to the first and second boards 120, 130 using first and second connectors 129, 139 on the connected to the first and second boards 120, 130 and using first and second terminals 144, 145 electrically connected to the inverter 141 using

wires 142, 143, respectively, with reference to FIG. 1 of the present invention. The first and second terminals 144, 145 can then be removably connected with the first and second connectors 129, 139, respectively, to facilitate assembly and removal of the lamps 110 as an assembly to and from the inverter 141.

Independent claim 1, and similarly in independent claim 29, has been amended to recite, inter alia, a first connector installed on the first board to electrically connect the first electrodes that are coupled to the first board to an inverter that generates the first discharge voltage, the first connector being disposed between the at least two first through-holes; and a first terminal removably coupled to the first connector to receive the first discharge voltage from the inverter and provide the first discharge voltage to the first connector, the first terminal is configured to facilitate disassembly and reassembly with a coupling portion of the first connector to provide electrical connection therebetween.

It is respectfully submitted that a cable 15 in FIG. 4 of Ishida relied upon and equated to the claimed “connector” on page 4 of the Detailed Action is not equivalent to the connector 129 (or 139) in accordance with the present invention. More specifically, according to FIG. 4 and column 6, lines 33-43 of Ishida, the cable 15 is connected at an end thereof to the return substrate 8. That is, Ishida does not disclose the connector 129 (or 139) disposed between the at least two first through-holes 125 (or 135) as illustrated in FIGS. 1-3 of the present invention.

Furthermore, Ishida discloses at column 2, lines 15-19 relied upon by the Examiner that “[a] single cable (not shown) is connected at one end thereof to the return substrate 28 and is also connected at an opposite end thereof to an inverter substrate (not shown)” In addition, Ishida further discloses, that “[a]s shown in FIG. 4, a cable 15 is connected at one end thereof to the return substrate 8 and is also connected at an opposite end thereof to an inverter substrate 17, which in turn is connected to high pressure-side electrode portions (not shown) located on high pressure-side end portions 7d of the lamps 7.” (Col. 6, lines 33-38). Ishida merely discloses the cable 15 directly connected at one end of the return substrate 8 and an opposite end of the cable 15 connected directly to the inverter 17. Ishida does not disclose any means for facilitating removal or installation of the lamps 7 with the inverter 17.

In particular, Ishida does not teach or suggest, and in fact teaches away from, a first connector installed on the first board to electrically connect the first electrodes that are coupled

to the first board to an inverter that generates the first discharge voltage, the first connector being disposed between the at least two first through-holes; and a first terminal removably coupled to the first connector to receive the first discharge voltage from the inverter and provide the first discharge voltage to the first connector, the first terminal is configured to facilitate disassembly and reassembly with a coupling portion of the first connector to provide electrical connection therebetween, as recited in amended independent claim 1, and similarly recited in amended independent claim 29. Thus Claims 1 and 29, including claims depending therefrom, i.e., Claims 2-13 and 30-36, define over Ishida.

Accordingly, it is respectfully requested that the rejection of Claims 1, 3-5, 13, 29-32 and 35-38 under § 103(a) be withdrawn.

Claims 7-11, 33 and 34 stand rejected under 35 U.S.C. § 103(a) as being allegedly unpatentable over Ishida et al. (U.S. Patent No. 7,057,678, hereinafter “Ishida”) in view of Oyokata et al. (Japanese Patent No. 2002-132193, hereinafter “Oyokata”). The Examiner states that Ishida discloses all of the elements of the abovementioned claims except, *a second board, coupled to the second electrode, for providing the second electrode with the second discharge voltage*, which the Examiner further states is disclosed primarily in FIGS. 1, 4 and 5 of Oyokata. Applicants respectfully traverse.

With respect to the rejection of claims 7-11, 33 and 34, first, it is respectfully noted claims 7-11 and 33 depend from claim 1, while claim 34 depends from claim 29, both of which claims are submitted as being allowable for defining over Ishida as discussed above. Further, it is respectfully submitted that use of the two boards of Oyokata does not cure the deficiencies noted above with respect to Ishida.

Further, it is respectfully submitted that Oyokata discloses a lighting installation that is constituted to illuminate an object for illumination from its rear with the transmitted light from the cold cathode fluorescent tubes [2] having electrodes at each of both ends in the axial direction of the tubes by impressing high-frequency voltages from inverter circuits to the fluorescent tubes [2]. The plurality of the fluorescent tubes [2] are disposed nearly parallel to each other and circuit boards 14 formed with the inverter circuits are disposed at each one-side end of the plurality of the fluorescent tubes [2] or near the same and the high-frequency output

side output terminals Vo of the inverter circuits are connected to the electrodes disposed to each one-side end of the fluorescent tubes [2]. (Abstract). Oyokota further discloses with reference to FIGS. 1 and 3 thereof that one end of each lamp [2] is disposed in a corresponding groove [9a] of a lamp holder rail [9] and sandwiched with another lamp holder rail [10]. A pair of stacked inverter circuit substrates [14] are disposed over a respective lamp holder with a member [11] disposed therebetween.

It is respectfully noted that independent claims 1 and 29 have been amended to more particularly point out and distinctly define over Ishida. In addition, it is respectfully submitted that use of the rubber lamp holder or any other disclosure of Oyokota does not cure the deficiencies noted above with respect to Ishida.

More specifically, neither Ishida nor Oyokota, either alone or in combination, disclose "a first insulated body 121 having a first inward surface that makes contact with the first lamp holder 127 and a first outward surface on which a first conductive pattern 123 is formed." FIGS. 1-4 of Ishida disclose a conductive substrate 8 electrically connected directly to an inverter substrate 17 through a cable 15. However, according to the present invention, the first board 120 includes a first insulated body 121, and a first conductive pattern 123 is formed on the first outward surface of the first insulated body, and a first terminal is removably coupled to the first connector to receive the first discharge voltage from the inverter and provide the first discharge voltage to the first connector, the first terminal is configured to facilitate disassembly and reassembly with a coupling portion of the first connector to provide electrical connection therebetween.

Further, it is respectfully submitted that Ishida does not disclose "a first connector 129 installed on the first board 120 to electrically connect the first electrodes that are coupled to the first board to an inverter 140 that generates the first discharge voltage." The Examiner alleges on page 5 of the present Office Action that Ishida discloses a connector [column 2, lines 15-19 and FIG. 4: (15)]. However, the reference number 15 indicates a cable that does not correspond to the first connector 129 but corresponds to a line 142 of the present invention.

Neither Ishida nor Oyokata, either alone or in combination, teach or suggest, a first connector installed on the first board to electrically connect the first electrodes that are coupled to the first board to an inverter that generates the first discharge voltage, the first connector

being disposed between the at least two first through-holes; and a first terminal removably coupled to the first connector to receive the first discharge voltage from the inverter and provide the first discharge voltage to the first connector, the first terminal is configured to facilitate disassembly and reassembly with a coupling portion of the first connector to provide electrical connection therebetween, as recited in amended independent claim 1, and similarly recited in amended independent claim 29. Thus Claims 1 and 29, including claims depending therefrom, i.e., Claims 2-13 and 30-38, define over Ishida in view of Oyokata.

Accordingly, it is respectfully requested that the rejection of Claims 7-11, 33 and 34 under § 103(a) be withdrawn.

Claim 12 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Ishida in view of Oyokata as applied to Claim 7 above (which limitations are included in Claim 1, as amended), and further in view of in view of Saito et al. (U.S. Patent No. 6,441,874, hereinafter “Saito”). Applicants respectfully traverse.

As discussed above, dependent claims inherit all of the limitations of the respective parent claim.

Claims 7-12 and 34 variously depend from claims 1 and 29. As discussed above, Ishida does not teach or suggest at least all of the limitations of at least amended claims 1 and 29. Saito also does not teach at least all of the limitations of amended claims 1 and 29. Therefore, Saito does not remedy the deficiencies of Ishida and Mazis with respect to amended Claims 1 and 29. Accordingly, Ishida, Oyokata, Mazis and Saito do not teach all of the limitations of Claims 6, 8-12, 33 and 34.

Since Ishida, Oyokata and Saito, alone or in combination, do not teach or suggest all of the limitations of at least Claims 6, 8-12, 33 and 34, *prima facie* obviousness does not exist regarding Claims 7-12, 33 and 34 with respect to the Ishida, Oyokata and Saito patents.

Additionally, since Ishida, Oyokata and Saito fail to teach or suggest all of the limitations of Claims 7-12, 33 and 34, clearly, one of ordinary skill at the time of Applicants’ invention would not have a motivation to modify or combine the references, or a reasonable likelihood of success in forming the claimed invention by modifying or combining the references. Thus, here again, *prima facie* does not exist.

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Thus, *prime facie* obviousness does not exist regarding Claims 7-12, 33 and 34 with respect to the Ishida, Oyokota and Saito patents. Applicants respectfully submit that Claims 7-12, 33 and 34 are not further rejected or objected and are therefore allowable. Reconsideration and allowance of Claims 7-12, 33 and 34 is respectfully requested.

Conclusion

In view of the foregoing, it is respectfully submitted that the instant application is in condition for allowance. Accordingly, it is respectfully requested that this application be allowed and a Notice of Allowance issued. If the Examiner believes that a telephone conference with Applicants' attorneys would be advantageous to the disposition of this case, the Examiner is cordially requested to telephone the undersigned.

In the event the Commissioner of Patents and Trademarks deems additional fees to be due in connection with this application, Applicants' attorney hereby authorizes that such fee be charged to Deposit Account No. 06-1130.

Respectfully submitted,

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